

WHAT IS CLAIMED IS:

- 5 *Sub B.1*
1. A method for maintaining high availability in a two node computer network, wherein said computer network includes alternate pathing, said method comprising:

adding a first High Availability Networking (HAnet) mechanism to a first node of said two node computer network, wherein said HAnet mechanism operates within an Application layer of an architectural model of said computer network;

10 monitoring a first network path of said computer network, wherein said first network path is between said first node and said second node, wherein said first network path corresponds to a primary path of said alternate pathing, and wherein said monitoring is by said first HAnet mechanism;

15 detecting a failure of said first network path, wherein said failure is detected by said first HAnet mechanism; and

20 performing a failover from said first network path to a second network path of said first node in response to detecting said failure, wherein said second network path corresponds to an alternate path of said alternate pathing, wherein said failover is performed by said first HAnet mechanism.

- 25 2. The method of claim 1, wherein said HAnet mechanism comprises computer software.

3. The method of claim 1, wherein said first network path comprises a first network interface card in said first node coupled to a second network interface card in said second node, wherein said first network interface card and said second network

interface card are coupled via a first crossover cable, and wherein said second network path comprises a third network interface card in said first node coupled to a fourth network interface card in said second node, wherein said third network interface card and said fourth network interface card are coupled via a second crossover cable.

4. The method of claim 1, wherein said first node and said second node comprise servers.

5. The method of claim 1, wherein said monitoring comprises said first node monitoring a heartbeat of said first network path.

6. The method of claim 5, wherein said heartbeat comprises said first node conveying request packets to said second node and said second node conveying reply packets to said first node, where said request packets and said reply packets are conveyed via said first network path.

7. The method of claim 1, wherein said monitoring comprises polling a status register corresponding to said first network path.

8. The method of claim 7, wherein said status register is in a network interface card.

9. The method of claim 6, wherein detecting said failure of said first network path comprises detecting said reply packets are not received from said second node.

10. The method of claim 7, wherein said detecting said failure of said first network path comprises detecting said status register indicates said first network path has failed.

11. The method of claim 1, wherein performing said failover comprises disabling said first network path and enabling said second network path.

Sub 57 12. The method of claim 3, wherein said failover comprises:

pausing monitoring of said first network interface card;

disabling said first network interface card;

10 plumbing said third network interface card;

configuring said third network interface card with interface address parameters corresponding to said first network interface card; and

15 enabling said third network interface card; and

resuming monitoring, wherein said second network path is monitored.

Sub B1 20 13. The method of claim 12, wherein said interface address parameters include an IP address, broadcast address, netmask address and MAC address.

14. The method of claim 13, wherein said interface address parameters further include a virtual IP address.

25 15. The method of claim 12, wherein said enabling is subsequent to the expiration of a time delay, wherein said time delay corresponds to a delay parameter read from a configuration file.

16. The method of claim 3, wherein said first network interface card, said second network interface card, said third network interface card, and said fourth network interface card are Ethernet adapters.

5 17. The method of claim 3, wherein said first network interface card, said second network interface card, said third network interface card, and said fourth network interface card are Gigabit Ethernet adapters.

18. The method of claim 1, further comprising:

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adding a second High Availability Networking (HAnet) mechanism to said second node of said two node computer network, wherein said second HAnet mechanism operates within an Application layer of an architectural model of said computer network;

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monitoring said first network path of said computer network, wherein said monitoring is by said second HAnet mechanism;

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detecting said failure of said first network path, wherein said failure is detected by said second HAnet mechanism; and

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performing a failover from said first network path to said second network path in response to detecting said failure, wherein said failover is performed by said second HAnet mechanism.

19. A network node configured to support alternate pathing, said network node comprising:

a first network interface, wherein said first network interface is coupled to a first network path, wherein said first network path corresponds to a primary path of said alternate pathing;

5 a second network interface, wherein said second network interface is coupled to an second network path, wherein said second path corresponds to an alternate path of said alternate pathing;

10 a High Availability Networking (HAnet) mechanism, wherein said HAnet mechanism operates within an Application layer of an architectural model of said computer network, wherein said HAnet mechanism is configured to monitor said first network interface, and wherein said HAnet mechanism is configured to perform a failover from said first network interface to said second network interface in response to detecting a failure of said first network path.

20. The network node of claim 19, wherein said HAnet mechanism is configured to monitor said first network interface by monitoring a heartbeat of a network connection corresponding to said first network interface.

21. The network node of claim 20, wherein said heartbeat comprises conveying request packets and receiving reply packets via said first network interface.

22. The network node of claim 19, wherein said HAnet mechanism is configured to monitor said first network interface by polling a status register of said first network interface.

23. The network node of claim 19, wherein said failover comprises disabling said first network interface and enabling said second network interface.

24. The network node of claim 19, wherein said failover comprises:

pausing monitoring of said first network interface;

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disabling said first network interface;

plumbing said second network interface;

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configuring said second network interface with interface address parameters
corresponding to said first network interface; and

enabling said second network interface; and

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resuming monitoring, wherein said second network interface is monitored.

25. The network node of claim 24, wherein said interface address parameters include an IP address, broadcast address, netmask address and MAC address.

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26. The network node of claim 25, wherein said interface address parameters further include a virtual IP address.

27. The network node of claim 19, wherein said first network interface and said second network interface comprise Ethernet adapters.

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28. The network node of claim 19, wherein said first network interface and said second network interface comprise Gigabit Ethernet adapters.

29. A two node computer network configured to maintain high availability, wherein said computer network includes alternate pathing, said computer network comprising:

5 a first node, wherein said first node includes a first High Availability Networking (HANet) mechanism, wherein said first HANet mechanism operates within an Application layer of an architectural model of said computer network;

a second node;

10 a second network path, wherein said second network path corresponds to an alternate path of said alternate pathing, wherein said second network path is between said first node and said second node;

15 a first network path, wherein said first network path corresponds to a primary path of said alternate pathing, wherein said first network path is between said first node and said second node, and wherein said first HANet mechanism is configured to monitor said first network path, and wherein said first HANet mechanism is configured to perform a failover from said first network path to said second network path in response to detecting a failure
20 of said first network path.

30. The two node computer network of claim 29, wherein said first HANet mechanism is configured to monitor said first network path by monitoring a heartbeat of said first network path.

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31. The two node computer network of claim 30, wherein said heartbeat comprises conveying request packets and receiving reply packets via said first network path.

32. The two node computer network of claim 29, wherein said first HAnet mechanism is configured to monitor said first network path by polling a status register corresponding to a network interface of said first node.

5 33. The two node computer network of claim 29, wherein said failover comprises disabling said first network path and enabling said second network path.

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A4 34. The two node computer network of claim 29, wherein said failover comprises:

10 pausing monitoring of said first network path;

disabling said first network path;

plumbing said second network path;

15 configuring said second network path with interface address parameters corresponding to said first network path; and

enabling said second network path; and

20 resuming monitoring, wherein said second network path is monitored.

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B1 35. The two node computer network of claim 34, wherein said interface address parameters include an IP address, broadcast address, and netmask address.

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36. The two node computer network of claim 35, wherein said interface address parameters further include a virtual IP address.

37. The two node computer network of claim 29, wherein said first network interface and said second network interface comprise Ethernet adapters.

5 38. The two node computer network of claim 29, wherein said first network interface and said second network interface comprise Gigabit Ethernet adapters.

10 39. The two node computer network of claim 29, wherein said second node includes a second High Availability Networking (HAnet) mechanism, wherein said second HAnet mechanism operates within an Application layer of an architectural model of said computer network, wherein said second HAnet mechanism is configured to monitor said first network path, and wherein said HAnet mechanism is configured to detect said failure of said first network path, and wherein said HAnet mechanism is configured to perform a failover from said first network path to said second network path in response to detecting said failure.

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